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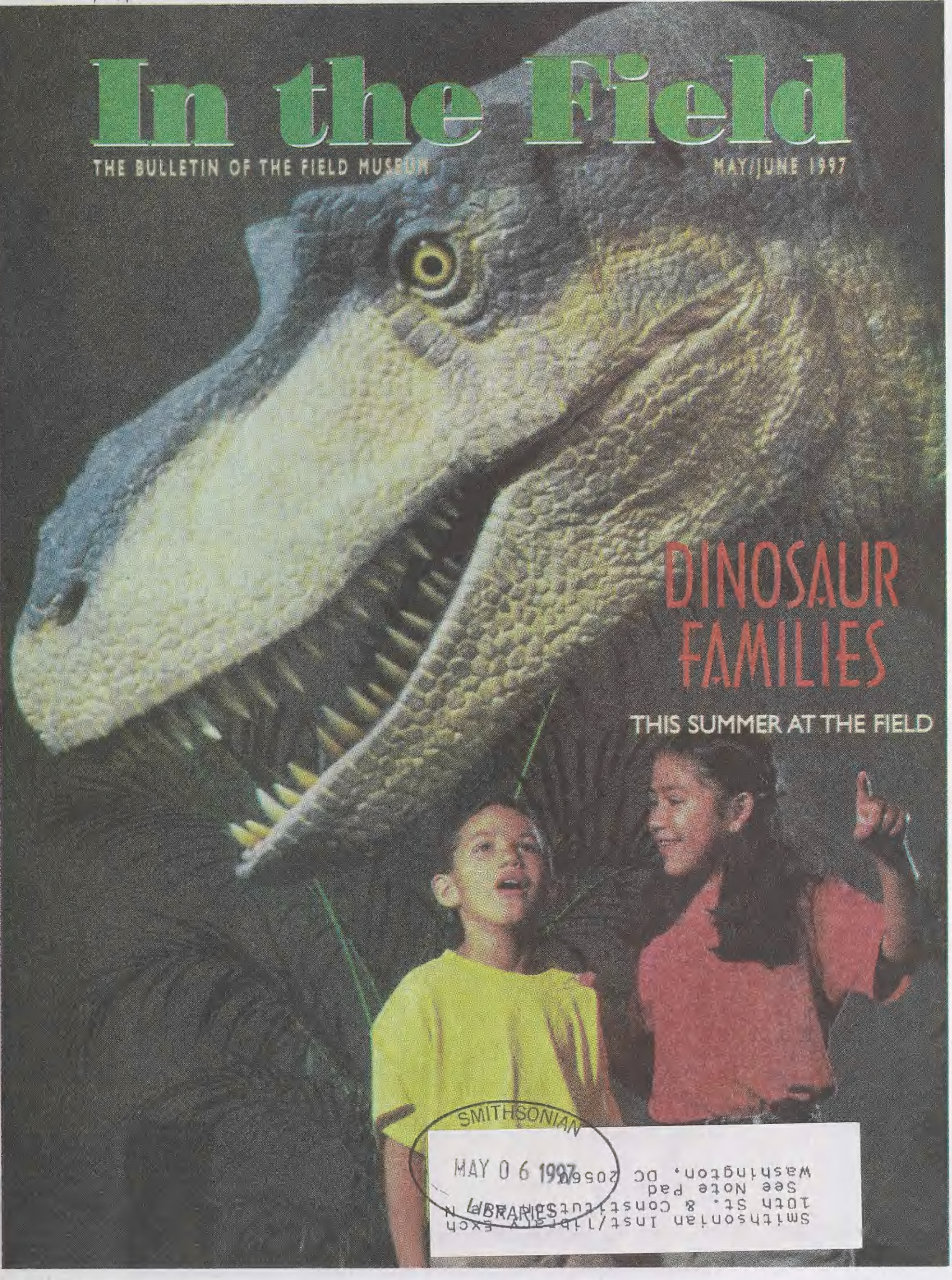
In the Field

THE BULLETIN OF THE FIELD MUSEUM

MAY/JUNE 1997



DINOSAUR FAMILIES

THIS SUMMER AT THE FIELD

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In the Field

THE BULLETIN OF THE FIELD MUSEUM MAY/JUNE 1997

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Jane Goodall, who revolutionized the field of primatology, will receive the Museum's Award of Merit on May 15.

5-8

A complete schedule of events for May/June, including the new summer exhibit, "Dinosaur Families."

10

On the last weekend of May, The Field, Shedd and Adler will host Walt Disney Resort's Magical Memories Tour.

The Illegal Camera: Photography in the Netherlands During the German Occupation, 1940 – 1945.

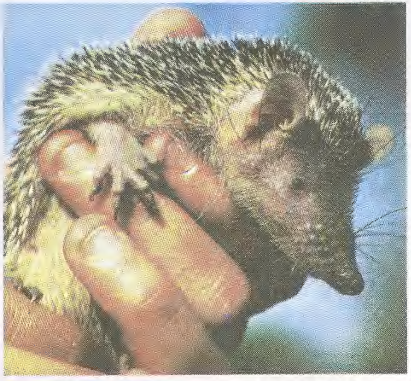
Children with food tins and flag celebrate the liberation of Amsterdam in May 1945. This is one of many photographs on display in "The Illegal Camera" exhibit.

See page 5

Emmy Andriesse

Tenrecs — An Example of Evolution in Isolation

Link Olson



Link Olson and Emilienne RAZAFIMAHATRATRA

By Link Olson
Field Museum Lester Armour Fellow and graduate student on the Committee on Evolutionary Biology at the University of Chicago

When asked to name any endemic mammal from Madagascar, most people would be hard pressed to come up with a single example other than lemurs. In addition to its unique primates, Madagascar is also home to an equally distinctive family of small mammals called tenrecs. Relatives of the shrews, moles and hedgehogs (all members of a group called insectivores), the Malagasy tenrecs stand out as a classic example of island radiation and present evolutionary biologists with a natural experiment of evolution in isolation.

Madagascar, together with India, broke away from Africa more than 100 million years ago — well before the evolution of most modern groups of mammals. Thus, zoologists suspect that tenrecs, like lemurs, reached Madagascar by "rafting" on floating mats of vegetation across the Mozambique Channel that separates Madagascar from Africa. In Africa, tenrecs probably had to compete with other insectivores. Today, only three species of tenrecs are found in Africa, all of which have adapted to a semiaquatic lifestyle — a niche unoccupied by any other African insectivore. None of these other groups became established on Madagascar, opening the door for tenrecs to diversify into more than 25 species.

Biologists once regarded Malagasy tenrecs as evolutionary relics whose persistence was attributable only to their protective isolation. This view has been toppled by the last two decades of research into tenrec diversity and life history. For a relatively small family of mammals, tenrecs have nonetheless evolved several impressive adaptations attesting to their evolutionary lability. Immediately obvious is the remarkable degree to which tenrecs have evolved to resemble other mammals like shrews, moles and hedgehogs — none of which are found on Madagascar. Several species are also capable of using echolocation, the sonar-like system found in most bats that involves using high-pitch sound to orient in the dark. Variation, the sine qua non of evolution, almost seems to have run amok in tenrecs, which vary more in body size than any other family of mammals and exhibit remarkable differences in metabolism. Making sense of this variation, however, is far from straightforward.

Problems Defining Species of Tenrecs

One of the biggest hurdles to understanding the diversity of tenrecs has been the difficulty in delineating the species themselves. This is particularly true for the shrew-tenrecs in the genus *Microgale*. In the past decade, this genus has varied in the scientific literature as having between 10 and 20 species. There are three related reasons for this confusion.

The first is that *Microgale* species, despite their external differences, are surprisingly similar in adult dentition. Traditional mammalian taxonomy has relied heavily on the variation in dental patterns (both numbers of teeth and the morphology of individual teeth), a criterion that is poorly suited on its own for separating between every species of *Microgale*.

Complicating this fact is the second cause for confusion, which involves the unique pattern of tooth replacement in tenrecs that makes it difficult to distinguish adults from juveniles. Individuals with different combinations of milk and permanent teeth can appear dissimilar enough to warrant status as distinct species.

Finally, until recently, many species of *Microgale* were poorly represented in natural history museums. Consequently, the history of tenrec taxonomy has been fraught with new species being named based on a few museum specimens (and sometimes a single individual). As more specimens have been added to museums, giving taxonomists a better understanding of dental growth and variation within species, many of these "species" are now considered juveniles of previously named species at different stages of tooth replacement. Some taxonomists have taken this to the extreme, lumping many species together based on similarities in permanent dentition.

The consequences of this confusion extend well beyond the seemingly esoteric realm of taxonomy. Indeed, taxonomy is the foundation on which several other subdisciplines of biology (like conservation and evolutionary biology) depend. For example, the International Union for the Conservation of Nature's (IUCN) Red List of threatened animals includes six species of *Microgale*. One of the three species accorded vulnerable status, *Microgale pulla*, was described from a single individual. This specimen has since been placed within another species, *Microgale parvula*, which is one of the three species on IUCN's endangered list.

Tenrec Research at The Field

Fortunately, the situation is changing, largely because of the efforts of Field Museum biologist Steven Goodman who has spent the past decade in Madagascar conducting biological inventories. In addition to several new species (and even a new genus) of birds, Goodman and colleagues from the United States, Madagascar and England have discovered and described several new species of shrew-tenrecs. This involves not only collecting species never before captured, but also gathering additional specimens of previously described species used by researchers to confirm or refute older descriptions. Having more extensive collections from several localities throughout Madagascar makes it possible for Goodman and other taxonomists to gain a better understanding of variation within the same species (including geographic variation), as well as variation among different species. Both are crucial in determining the diversity of species.

My own graduate research builds on the work of Goodman and others. To address questions of biogeography and evolution, it is often necessary to know how different species of tenrecs are related (their phylogeny). In addition to comparing the anatomical differences used by zoologists in the field and in museums, I am looking at differences in chromosome structure and variation in individual genes. By analyzing these three separate types of data, a better understanding of tenrec relationships is beginning to emerge. Once this phylogenetic framework is known, I can test competing theories of whether body size or metabolism is more important in affecting how fast a species' DNA evolves. Interesting biogeographical applications include testing the theory that tenrecs have invaded Madagascar more than once.

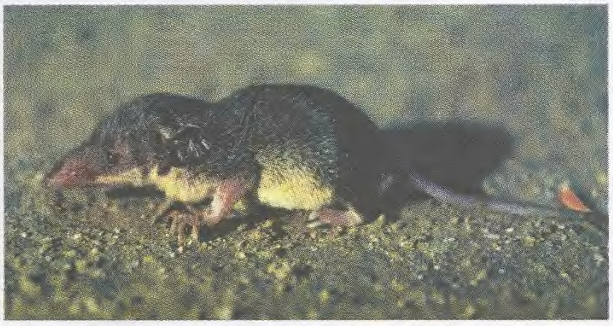
Continued on page 9

(Above): *One of two species of hedgehog tenrecs. Because hedgehog tenrecs share so many striking similarities with true hedgehogs, they were originally classified as such. Although tenrecs and hedgehogs belong to the same order, they are in separate families and are not closely related. Like their distant cousins, however, hedgehog tenrecs have developed the ability to roll up into an impenetrable ball of spines as a defense against predators.*

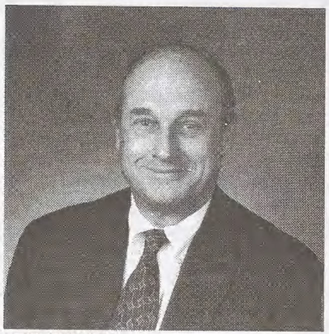
(Top Left): *Link Olson holding a common tenrec. This species, for which the entire family is named, is the largest insectivore on Earth and also holds a record among mammals for having the largest single litter ever recorded* (32 *young*).

(Below): *The mouse-eared tenrec, a termite specialist, is one of the few tenrecs adapted to arid environments.*

Link Olson



Major Changes Under Way at The Field



John Weinstein /GN88119.6

Every year more than a million people visit The Field Museum to explore our exhibits, to learn about the research of our curators, or to spend a day with their family. With the transformation of old Lake Shore Drive and the development of a 10-acre park (Museum Campus), we hope to double that attendance in the next few years. The campus, however, is just one element in a long-term plan to reach a new audience, establish additional membership benefits and create a setting that combines cultural and educational activities with recreational events and entertainment.

Though the park will be finished by year's end, the campus museums (Adler, Shedd and Field) will infuse their own cultural identity into the park by the spring of 1998. This will include outdoor exhibits, botanical gardens, farmers' markets, developing educational and cultural activities with our museum neighbors and organizing campus festivals. The park, which will slope to the shores of Lake Michigan, will help connect the Museum to the rest of the City through Grant Park and the lakefront. Thus, the Adler, Shedd and Field will no longer be isolated in a sea of concrete and by a steady stream of traffic.

Ideally, we want to create an educational and cultural experience that is unmatched anywhere in the world. When the park is complete, visitors will be able to spend an entire day on the campus engaged in the exhibits, enjoying a picnic, soaking in the sun by the lake, or reading a book under the shade of a tree. Though there will be recreational activities offered on campus like the Walt Disney program this summer (see p. 10), the cultural and educational missions of the three institutions will serve as the cornerstones of the park.

To make the best use of the campus, representatives from all three museums have been meeting each week to develop joint programs for members and visitors. Some proposals include shared programming, special events and joint admission and membership packages. We already have decided that it would be a benefit to our members to publicize each others' programs in our membership publications. Starting in the next issue, you will be able to get an idea of major activities at the Shedd and Adler.

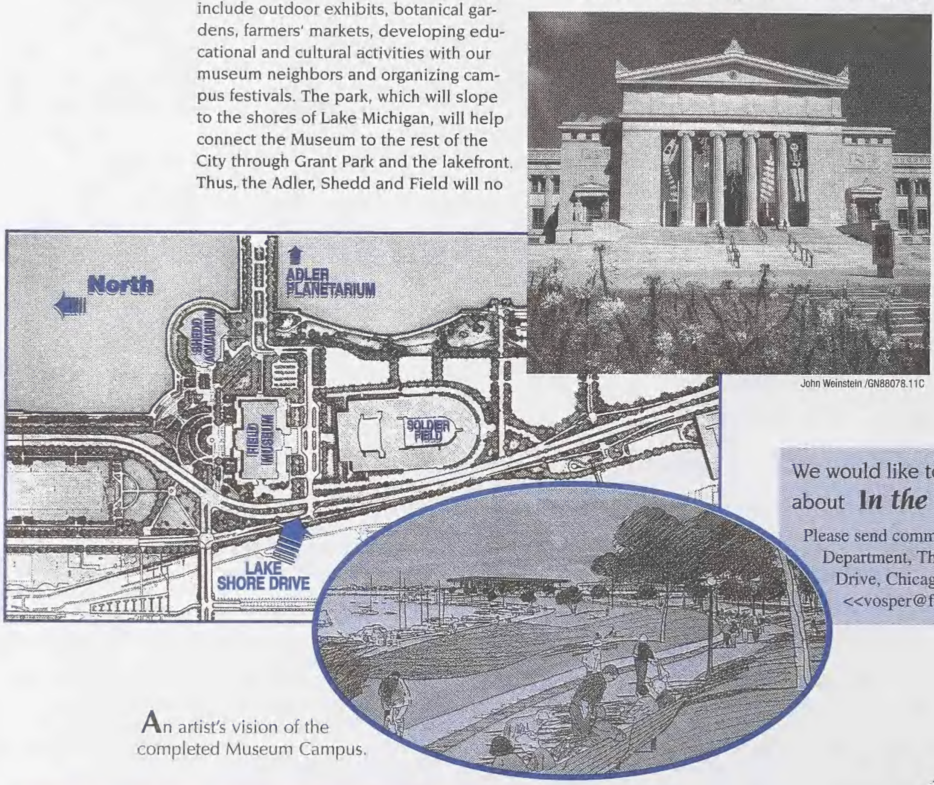
As we approach the new millennium, we also are planning to make some major renovations to the Museum. These will include modernizing our exhibits, remodeling and expanding the building and evaluating the best use of existing space. Meanwhile, we also are looking at various options for improving the parking situation around the Museum and enhancing visitors' public transportation choices. We have already been working with the Chicago Transit Authority to minimize the impact of construction on access to the museums (see calendar section).

The next few years will prove to be very exciting at The Field Museum. We hope that you will join us in making our vision for the Museum and campus a reality. Since this is your Museum, we ask that you share with us your ideas or comments about ways we can improve.

I look forward to hearing from you.

John McCarter

John W. McCarter, Jr.
Field Museum President



John Weinstein /GN88078.11C

An artist's vision of the completed Museum Campus.

We would like to know what you think about ***In the Field ...***

Please send comments or questions to Robert Vosper, Publications Department, The Field Museum, Roosevelt Road at Lake Shore Drive, Chicago, IL 60605-9410, or via e-mail at <<vosper@fmppr.fmnh.org>>.

In the Field

May/June 1997
Vol. 68, No. 3

The Field Museum
Exploring
The Earth And Its
People

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A Mai ceremonial mask from the Middle Sepik River in Papua New Guinea. The mask is a recent gift from Irving Nuger. For information about the Sepik River, see The Field Museum Tours' page on the back cover.

Jane Goodall to Receive Award of Merit

By Robert Vosper

When anthropologist Louis Leakey assigned a young English woman in the summer of 1960 to lead a field expedition to study chimpanzees in Tanzania's Gombe National Park, the scientific community thought Leakey had gone mad. His critics could not believe he would send a *woman*, who had only a secretarial degree, into the wilds of an African forest. Nobody, other than Leakey, thought she would last more than three weeks.

More than 35 years later, the woman, Jane Goodall, completed the longest continuous field study of animals in their natural habitat, and in the process revolutionized the field of primatology.

On May 15, the Museum's Founders' Council will present Goodall with The Field Museum's Award of Merit, given in recognition of outstanding achievement in bringing issues of biodiversity to popular attention. Since 1960, Goodall has amazed the public and scientific community with her intricate studies of wild chimpanzees. Though no longer conducting fieldwork, she now tirelessly lobbies to protect wild chimpanzees and to make conditions for those in captivity more humane.

Five years after setting out into Gombe National Park for Leakey, Goodall earned her Ph.D. in ethology from Cambridge University (they accepted her without an undergraduate degree based on her fieldwork). After receiving her degree, she immediately returned to Tanzania to establish the Gombe Stream Research Centre on the shores of Lake Tanganyika. What she discovered there astonished everyone. For example, she shattered the long-held belief that chimpanzees were vegetarians and that humans were the only animals able to make and use tools. Goodall also realized that chimpanzees, like humans, experienced love, compassion, sadness, anger and, to Goodall's dismay, possessed the ability to wage bloody warfare. Because of these "human" characteristics, she identified her chimpanzees with names like Flo, Gremlin and Pom — breaking with the traditional scientific method of using numbers to distinguish between research subjects.

Michael Neugebauer

Her unique study methods and poignant descriptions of the chimpanzees captivated the public in 1965 when National Geographic unveiled her research to the world in its magazine and in a television documentary. Since then she has brought her work and the lives of three generations of Gombe chimpanzees into the hearts of the public through a series of successful popular books, including *In the Shadow of Man*, *Chimpanzees of Gombe* and *Through a Window*.

In 1977, Goodall founded the Jane Goodall Institute for Wildlife Research, Education and Conservation (JGI) to provide ongoing support for field research of wild chimpanzees. Based in Connecticut, JGI has offices in Canada, England, Germany and Tanzania. Though her fieldwork ended in the mid-80s, Goodall has since fought relentlessly to protect chimpanzees in the wild and in captivity.

"Chimpanzees suffer in captivity, as they are exploited in entertainment, dressed up as pets, dragged around as photographers' props and imprisoned in the name of science in tiny barren steel cages," she once wrote. "I am haunted by dull, blank eyes staring out into a world that offers them no hope. The least I can do is speak out for them. They cannot speak out for themselves."

Goodall also established sanctuaries for orphaned chimpanzees in the Congo, Kenya, Tanzania and Uganda, and founded an international educational program for young people. The program, *Roots and Shoots*, teaches children to "care and respect their environment, nonhuman animals and the human community."

In 1995, Goodall received the National Geographic Society's prestigious Hubbard Medal "for her extraordinary 35-year study of wild chimpanzees and for tirelessly defending the natural world we share." That same year Britain's Queen Elizabeth II distinguished Goodall with the title of Commander of The British Empire.

For information about joining the Founders' Council or about the award presentation, call Patricia Stratton at 312.322.8868.

If you would like more information about Jane Goodall's activities or the GPI, set your Web browser to: <<http://www.wcsu.ctstateu.edu/cyberchimp>>.

Her organization also can be reached via e-mail at <<JANEGOODALL@wcsu.ctstateu.edu>>.

MEMBERSHIP PROGRAMS AND NEWS

The Field Museum Cordially Invites Members to Attend The Members' Viewing Night for

DINOSAUR FAMILIES

See the real and reconstructed fossils from this amazing dinosaur find, including the first dinosaur eggs discovered in North America . . . the first dinosaur embryo found in the world . . . the bones of baby dinosaurs found in their nests . . .and the fossil remains of the parents who tended them. You'll also see eight robotic dinosaurs, including a 12-foot-high *Albertosaurus*. Turn to page 6 for additional information about this exhibit.

THURSDAY, JUNE 12
5:30 p.m. – 9 p.m.

Our "Picnic in the Field" deli will be open from 5:30 p.m. to 8 p.m.

New Membership Fees

The Field Museum is fortunate for the many thousands of members who have continued to support it through the years. Thanks to these devoted friends, the institution has been able to vigorously pursue its primary goals of preserving and disseminating knowledge of natural history.

The Museum has striven to keep membership fees at the same level since our last increase in the early 1990s. Rising costs, however, now make it necessary for the Museum to raise those fees, as well as those for general admission. As of May 24, 1997 membership dues will be offered for:

- $40 — Individual Membership
- $50 — Family Membership
- $30 — Senior and Student Membership

In appreciation for your support, the Museum is giving current members the opportunity to renew for one additional year at the prior rate through June 1, 1997. Look for a mailing outlining this special offer in the coming weeks.

The benefits of Field Museum membership are numerous: free admission everyday, the experience of Members' Nights, exclusive evenings to view new exhibits, discounts on classes and Museum store purchases, and much more.

We appreciate your continued interest and look forward to having you with us in the years to come.

— **Susan Webb**, *Manager, Membership*

Diptera Collection Creates a Buzz Among Ancona Students

By Robert Vosper

For most teenagers, the sound of the final school bell on a Friday signifies at least 48 hours of complete academic freedom. But for seven or eight 15-year-olds from the Ancona School in Chicago's Hyde Park, it means spending the rest of the afternoon examining flies and mosquitoes in one of The Field Museum's collection rooms.

Kimberly Mazanek /GN88152.32

Every Friday these aspiring scientists travel from the South Side to talk about why certain mosquitoes carry malaria, or the role insects play in solving homicides — not quite the conversations expected of the MTV generation. Then again, these are not your typical teenagers. All agreed to volunteer after school for the monumental task of cataloguing the Museum's Diptera collection (an order of insects — including true flies, mosquitoes and gnats — characterized by a pair of functional wings and a vestigial pair used for balancing).

So, why do these teenagers trade in their precious free time to explore the world of entomology? It all started in January 1996, when Bill Ballard, assistant curator of insects, and Zeus Preckwinkle, a science teacher from the Ancona School, were jogging together through the streets of Hyde Park.

"While we were jogging, I began to explain to Bill that most of my students have no idea about all the research that takes place at The Field," explains Preckwinkle. "I then asked Bill if he was interested in coming to the school to talk to my students about the Museum."

Ballard agreed, but both thought it would be more helpful if they created a more comprehensive educational package for the teenagers, including lectures and an interactive Museum field trip.

Preckwinkle thought this was a great idea for many reasons. First, it would introduce his students to science in a real-world setting. Second, it would help him to answer that age-old question on every student's mind: Why do we need to learn this? Finally, he hoped it would shatter the misconception that a doctoral degree is needed to work in the science field.

"In our world you are led to believe that you are either a scientist or someone who sits on the couch watching the Discovery Channel," says Preckwinkle. "There shouldn't be this huge gap; education should be dealing with the idea of getting people involved."

Getting the students involved is precisely what they did. At first Ballard talked to the students about research at the Museum and his work as an entomologist. Preckwinkle then took the students to the Museum to explore the "What is an Animal?" and "Life Over Time" exhibits. While walking through the exhibits, the students were challenged to find the answers to questionnaires prepared by Ballard and Preckwinkle.

"Quite often, kids go on a field trip and it is like letting the dog out of the cage," explains Preckwinkle. "I tried to convey to the kids that the Museum is an extension of their classroom that contains a wealth of resources unavailable in a school setting."

After the field trips, Ballard and several collection managers took the students on a behind-the-scenes tour of the Museum, including the divisions of birds, fishes, insects and mammals. At Ballard's final lecture at Ancona, Preckwinkle and a few students approached Ballard and asked whether they could volunteer during the summer. Not only did Ballard think it was a great idea, but he had a project in mind for them: cataloguing the Museum's Diptera collection.

During the summer of 1996, Preckwinkle and a handful of students spent six weeks at the Museum. They catalogued 30 families and 11,255 specimens from the collection, all of which added up to 515 volunteer hours. Unfortunately, they were only halfway through. But Preckwinkle and the students leapt at the chance to finish the job during the school year.

"What these kids are doing is very important to the Museum," says Ballard. "We have a huge collection of insects and we need it catalogued onto a computer database with the idea of eventually getting it up on the Web. But we just don't have the manpower at the Museum to do this kind of work. What we have created is a mutually beneficial situation for the Museum and the students."

For instance, Andrew Greenlee, one of the first Ancona summer students to join the program, still returns three times a week to work on the collection even though he now attends the Latin School in Chicago.

"The whole experience of coming to the Museum and having focused work to do was something that I had not experienced in school," he explains.

Since working in the program, Greenlee now understands taxonomy, DNA extraction, the intricacies of writing a grant proposal and the role insects play in the environment. But perhaps more important to Preckwinkle and Ballard, he now believes a science career is within his reach.

"There are not too many people who can have an experience like this," Greenlee says. "Even if I don't go into science, I think this experience will greatly affect my life and skills. But hey, maybe one day I will be an entomologist. Before, I didn't even know that people sat around and studied bugs all day."

Because of the success of the program, Ballard sent a proposal to the National Science Foundation for funding to expand the program, which would include three phases starting in 1998 and ending in 2001. In the first phase, students would be exposed to lectures and field trips. Those showing an interest would then be encouraged to spend a summer (second phase) at the Museum cataloguing insects and learning more about entomology. Of those students, the most committed would join Ballard in the final phase: extracting DNA from insects in the Museum's biochemical lab.

Kimberly Mazanek /GN88151.6

Meanwhile, Ballard aims to encourage his young crew of scientists to finish cataloguing the Diptera collection by cross-referencing the species-level database for each specimen (used to construct maps of the distribution of each species). And Preckwinkle hopes curators from other divisions will take an interest in the program so that the students can get a better understanding of the breadth of the science field. Though Ballard admits it can be hard to find time in his schedule to devote to the program, he believes the payoffs are immeasurable — particularly when fewer students, especially minorities and women, are pursuing science careers.

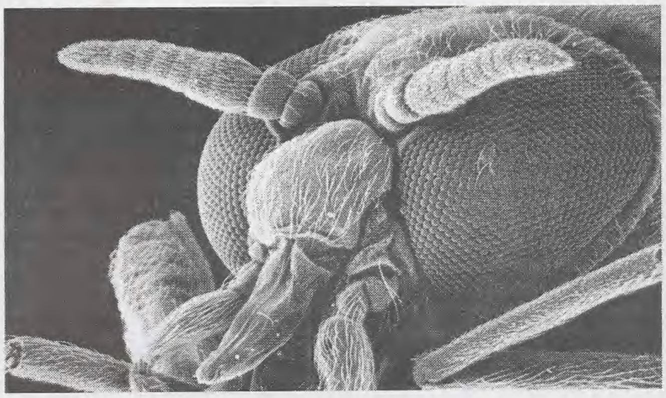
"This is an appropriate age group to target because a loss of self-confidence, beginning around the 7th grade, causes the first leak in the science pipeline, " says Ballard. "In other words, if we don't catch them now we will have lost them forever."

The program also adds a new dimension and challenge to Ballard's responsibilities as an assistant curator. He now looks forward to the end of the week when the students herd into his office, drag him down to the collection room and bombard him with questions about the collection. Keeping the students motivated, encouraging them to think critically and proving that science is multifaceted, Ballard explains, almost rivals his work as an evolutionary biologist.

(Above): *At the beginning of the project Curatorial Assistant Philip Parrillo (right) gave the students a crash course in taxonomy. He also double-checks their work for accuracy. In this picture Bill Ballard (left) and Parrillo attempt to answer a student's question.*

(Top Right): *Zeus Preckwinkle and his students prepare to catalogue some flies. Every week Ancona preprimary teacher Jane Zimmerman (not pictured) also lends a hand to the program.*

(Below Right): *An electron micrograph of a black fly. The black fly, which is a member of the Diptera order, was one of the first flies that the Ancona students studied. This fly, which is found all over the world, uses its mouth to rip open a person's skin so it can feed on the blood that flows from the resulting wound. In North America the fly is commonly found around the streams and rivers of New England and Canada. A similar species of black fly is found in West Africa and is responsible for transmitting* Onchocerciasis, *or "river blindness."*



Collin Beaton

MAY/JUNE 1997

Your Guide To The Field

The Illegal Camera: Photography in the Netherlands During the German Occupation, 1940 –1945

The photographs of "The Illegal Camera" exhibit depict life in the Netherlands during World War II. The exhibit's 60 photographs were taken by amateur and professional Dutch photographers who set out to document the persecution of Dutch Jews, the activities of the Dutch Resistance, the shortages and starvation brought on by the war and the liberation of the Netherlands. The photographers of this exhibit risked their lives to create a record of war, making photography a determined act of resistance.

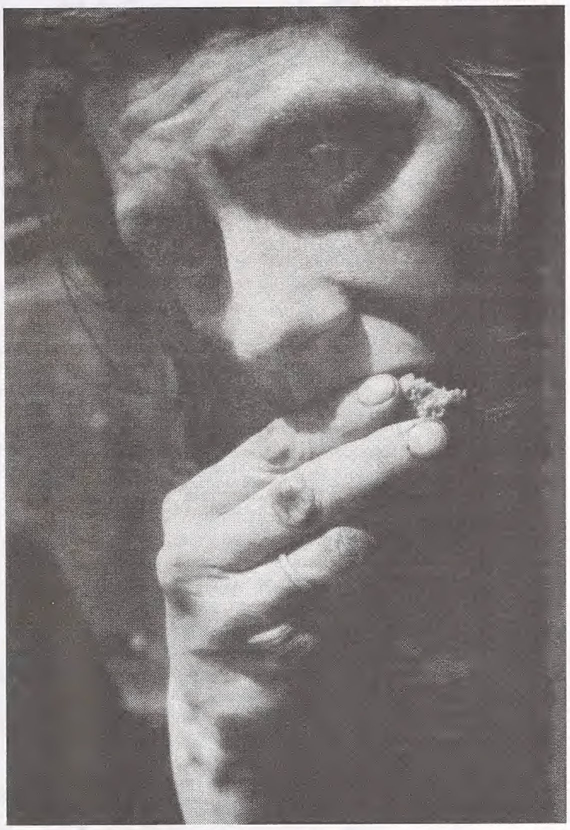
"The Illegal Camera" was organized by The Netherlands Photo Archives (NFA), Rotterdam, and curated by Veronica Hekking and Flip Bool. The exhibit will run through June 1.

"The Illegal Camera" Public Programs
Call 312.322.8854 for more information or to register.

May 11: *The Dutch Resistance: Epko Weert's Story*
2 p.m. Join us for this unique opportunity to hear and meet Epko Weert, one of the members of the Dutch Resistance captured on film and exhibited in "The Illegal Camera." Currently living in Amsterdam, Weert, who was honored by The Israeli Holocaust Authority at Yad Vashem for his work in the Resistance, volunteers at the Resistance Museum as a guide — telling his personal story of the German Occupation. Using video and slides, he will give those in attendance a sense of the dire conditions, the joy of the liberation and the sadness of losing so many friends and colleagues during the war. This event is cosponsored by the Spertus Museum and the Consulate General of the Netherlands. $12 (Free to Spertus Society and Field Museum members).

May 13: *Stolen Goods: The Economic Side of the Holocaust in Holland*
5:30 p.m. An overwhelming majority of the Dutch Jewish population fell victim to the Holocaust. Peter Hayes, professor of history and German and Alfred W. Chase Professor of business institutions at Northwestern University, will discuss the material side of the persecution of Dutch Jews. He will comment on what happened to the property and assets of Dutch Jews after they were deported and stripped of their valuables by the Nazi regime. An expert on the history of the Holocaust, Hayes is currently working on a book, *Profits and Persecution: German Big Business and the Holocaust.* $12 ($10 members).

June 1: *Things We Couldn't Say*
2 p.m. As a young Dutch woman, Diet Eman, with her fiancé, Hein Sietsma, risked everything to rescue Jews imperiled by Nazi persecution in occupied Holland during World War II. Their efforts in helping the Dutch Resistance throughout the years ultimately saved the lives of hundreds of Dutch Jews. She now shares, firsthand, her story from when she initially joined the Resistance, her eventual arrest and imprisonment at the Vught concentration camp, to the final grim toll of the war that devastated Europe. Copies of her book, *Things We Couldn't Say*, will be available for purchase and signing after the lecture. $12 ($10 members).


Cas Oorthuys, Courtesy of Nederlands Fotoarchief

Sacred Arts of Haitian Vodou exhibit has been extended to August 3.

Kayapo Imaging exhibit will be on display in the Webber Gallery until July 6.

Getting to the Museum This Summer

Starting in May, the City of Chicago will begin the last phase of the Lake Shore Drive Improvement Project. For The Field Museum, it signifies the final step in the creation of the long-awaited Museum Campus. By August, construction workers will have excavated the employee parking lot north of the building, removed the remains of old Lake Shore Drive, widened McFetridge Drive and installed median planter boxes. After the City removes the parking lot, landscapers will then grade the land around the Museum. In November, once the land has been landscaped, The Field Museum, the Shedd and Adler will be enveloped in a park-like setting.

In the spring of 1998, the campus museums will add their own cultural stamp to the park. While nothing has been finalized, the museums hope to install interactive educational signs, develop an area for events, construct outdoor exhibits and plant a botanical garden. Throughout the winter, the museums have been working with the City to ensure that the 1997 construction and landscaping in no way impedes access to the campus.

Improved CTA Routes
Effective March 9, the No.12 – *Roosevelt* bus will shuttle Museum visitors from the Orange, Green and Red Line "L" trains at the Roosevelt Road stations.

Starting Mother's Day weekend and ending Labor Day, the No. 130 – *Grant Park Treasures* bus will transport weekend Metra riders from downtown train stations to the Museum via Madison, Michigan, Lake Shore Drive and McFetridge Drive.

Visitors coming from Michigan Avenue can take the No. 146 – *Marine/Michigan* via Michigan, Columbus, Lake Shore Drive and McFetridge Drive.

In addition, *the* No. 6 *Jeffery Express*, the No. 2 *Hyde Park Express*, No. 10 *Museum of Science and Industry*, and the No. 14 *South Lake Shore Express* will stop throughout the summer at the corner of Columbus Drive and Roosevelt Road — about a block northwest of the Museum.

For additional information on Metra, CTA and Pace connections, schedules and fares, call the RTA Travel Center hotline at 312.836.7000, or visit the CTA Web site at <<http://www.transitchicago.com>>

Parking
For $5 a day, Museum visitors can use Soldier Field parking lots. The campus museums expect to obtain free shuttle buses or trolleys to transport visitors from the lots to the museums. However, it is recommended that visitors use public transportation during Soldier Field events. Also, watch for free trolleys along the lakefront during City festivals and special events.

Downtown Thursday Night

The Field Museum, together with a host of other cultural, commercial and entertainment venues, will be open for free from 5 p.m. to 8 p.m. on eight different Thursday nights from July 3 to September 3 [excluding July 10]. The Museum will use these nights to host special music, culinary and cultural events. Sponsored by the City's Department of Cultural Affairs (DCA), "Downtown Thursday Night" is an opportunity for students, commuters, residents and visitors to explore the City. The DCA will sponsor a free trolley between the Cultural Center (Randolph and Michigan Avenues) and the Museum Campus, with stops along State Street and Printer's Row. For more information, call 312.922.9410.

Free Visitor Programs for Dinosaur Families Exhibit Opening

See next page for details on the "Dinosaur Families" exhibit

May 24 — Saturday
11 a.m. – 3 p.m. **"Trapped in Amber"** demonstration. Field Museum entomologist Philip Parrillo offers a close-up look at insects in amber.

Noon & 2 p.m. **"Dinosaur Families: Heirlooms and Hoopla"** performance. Musical theater performance about paleontology and dinosaur egg discoveries that includes children in the action.

1 p.m. – 3 p.m. "**Bird or Dinosaur**" demonstration. Chris McGowan, author and paleontologist from the Royal Ontario Museum, shows how chicken bones can be used to build dinosaur skeletons.

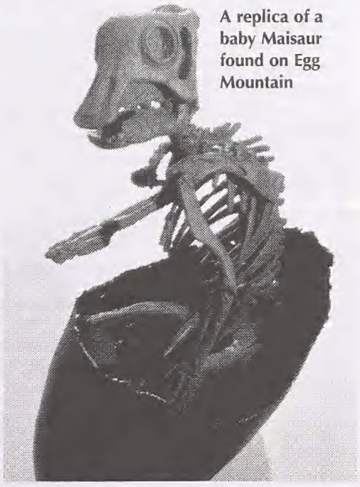
May 25 — Sunday
11 a.m. – 3 p.m.
"Trapped in Amber."

Noon & 2 p.m.
"Dinosaur Families: Heirlooms and Hoopla" performance.

May 26 — Monday
11 a.m. **Dinosaur Egg Hunt**. Children, age 3 to 8, are invited to hunt for plastic "dino" eggs on the Museum Campus. All contain dino facts; a few contain special prizes!

11 a.m. – 3 p.m. "**Trapped in Amber**" demonstration.

Noon & 2 p.m. "**Dinosaur Families: Heirlooms and Hoopla**" performance.


A replica of a baby Maisaur found on Egg Mountain

Bruce Selyem, Courtesy of The Museum of the Rockies

Dinosaur Families . . . May 24 to September 1

Allen Cheuvront/ GN88149.3c

"Dinosaur Families" was developed by the Museum of the Rockies, Montana State University, Bozeman, and by Kokoro Company, Ltd. of Tarzana, California and Tokyo, Japan.

In 1978, paleontology graduate students Jack Horner and Bob Makela — following leads provided by local fossil collectors — discovered one of the most remarkable research sites in paleontology: a *Maiasaura* dinosaur nesting colony from the Late Cretaceous period, complete with fossilized eggs and embryos (the first dinosaur embryos found anywhere), hatchlings and the fossil remains of four-ton adults. These finds — at a Montana site on the slopes of the Rocky Mountains (now known as Egg Mountain) — have provided major new insights into dinosaur biology and behavior, showing for the first time that some dinosaurs cared for their young, nested in colonies and traveled in enormous herds.

On May 24, The Field Museum, in its new summer special exhibit, "Dinosaur Families," will display the real and reconstructed fossils from this amazing find, including the fragile, small bones of baby dinosaurs in their nests, and the fully developed bones of the parents who tended them. Amid the authentic and reconstructed "Egg Mountain" fossils, are eight huge robotic dinosaurs, including a 12-foot-high *Albertosaurus*, ferocious carnivorous cousin of *T-Rex*; a mother maiasaur, the "good mother lizard," tending to her cheeping babies; and a a migrating herd of adult maiasaurs.

Included in the "Dinosaur Families" exhibit are the dinosaur fossils recently unearthed in Madagascar by Field Museum paleontologists and an international team of scientists (see cover story of *In the Field*, March/April 1997). Among the highlights:

- The complete , astonishingly well-preserved skull of *Majungasaurus* — a ferocious, meat-eating dinosaur named a century ago, but, until now, known only by a few dagger-like teeth and a couple of small bones.
- The exquisitely preserved bones of a young *Titanosaurus*, an elephant-sized, plant-eating dinosaur — which was the first relatively complete skeleton ever found on Madagascar.
- Several new species of crocodiles, including a tiny species related to much earlier fossils from Brazil and a large, 14-foot-long specimen that is so different from other fossil crocodiles it called for a new genus.
- The skull of the first cynodont found in Madagascar. These "mammal-like reptiles," older than any other dinosaur, are ancient relatives of mammals like humans.

The Museum component of "Dinosaur Families" explains how fossils help scientists reconstruct a picture of specific animals, ancient ecosystems and everyday life millions of years ago; how they determine the relationships among species; and how this in turn provides information on how the Earth's continents have moved and changed over time.

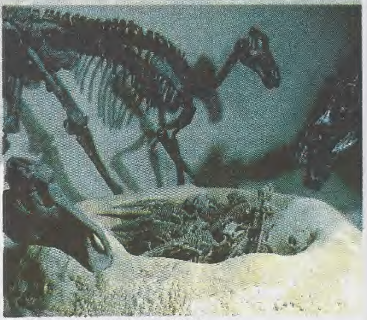


Photo Courtesy of The Miami Museum of Science

A Sampling of "Dinosaur Families" Events at The Field

Diane Alexander White/ GN88145.25C

(Above): *Greg Buckley, Field Museum geologist, introduces young Museum visitors to a rare* Majungasaurus *skull discovered on a recent expedition to Madagascar.* In Focus on Fossils: Behind-the-Scenes with the Department of Geology, *Buckley will describe how fossils are collected and prepared, and how they reveal the secrets of life on Earth (see description under* Dinosaur Family Evening*).*

DINOSAUR DIGNITARIES: LIFESTYLES OF THE FOSSILIZED AND FAMOUS

Make Your Own Dinosaur out of Chicken Bones: Foolproof Instructions for Budding Paleontologists.

Sunday, May 25, at 2 p.m.

$12 ($10 Museum members)

Chris McGowan, curator in the department of paleobiology at the Royal Ontario Museum, will discuss his new book and explain how he and many others believe birds evolved from dinosaurs. (McGowan will offer a free dinosaur-building demonstration on May 24 from 1.p.m. to 3 p.m. Copies of his book will also be available).

The Science of Jurassic Park

Saturday, June 21, at 2 p.m.

$12 ($10 members)

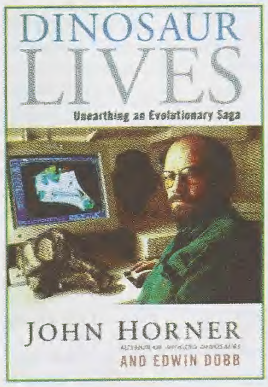
If an insect that had bitten a dinosaur 85 million years ago had been preserved in amber, could modern scientists extract dinosaur DNA from the insect and use it to clone a new dinosaur? Join Rob DeSalle, associate curator at the American Museum of Natural History in New York City, and David Lindley, associate editor of *Science News*, as they highlight their new book, *The Science of Jurassic Park*. Copies of the book will be available for purchase and signing.

Dinosaur Lives

Saturday, June 28, at 2 p.m.

$12 ($10 members)

The "Dinosaur Families" exhibit highlights the Egg Mountain discoveries of Jack Horner, curator of paleontology at the Museum of the Rockies in Bozeman, Montana. Horner's just-released book, *Dinosaur Lives*, recaps the last three decades of famous discoveries on Egg Mountain. Horner was also the technical advisor for Steven Spielberg's movie "Jurassic Park" and the sequel, "The Lost World." Copies of *Dinosaur Lives* will be available for purchase and signing.



Imaginary Dinosaurs

Saturday, July 12, at 2 p.m.

$12 ($10 members)

Join University of Chicago English and art professor W.J.T. "Tom" Mitchell for an in-depth look at the history of the dinosaur as a cultural icon. An art historian and scholar of cultural images and works across the media and various artistic forms, Mitchell studies the changes in representation of dinosaur images in relation to politics, economics, social movements, historical events and the culture of paleontology.

DINOSAUR FAMILY EVENING

Focus on Fossils: Behind-the-Scenes with the Department of Geology

Friday, June 6, from 6 p.m. to 8 p.m.

$10 per participant ($8 per Museum member). Greg Buckley, the Museum paleontologist featured in the exhibit, will describe how fossils are collected and prepared, and how they reveal the secrets of life on Earth. For adults and children grades 3 and up.

FAMILY WORKSHOPS

Digging into Dinos

Saturday, June 7, from 10 a.m. to Noon.
$10 per participant ($8 per Museum member). Learn to track dinosaurs by their footprints. Create a dino puppet. Practice using paleontologists' tools and more. Adults with children grades K–2.

MEET THE DINOSAURS

Saturday, June 21, 10 a.m. to 11 a.m., and 1 p.m. to 2 p.m.

$14 for one adult and one child ($12 Museum members). Play games like "Feed the Dinosaurs" and "Dinosaur Footprints." "Hatch" dinosaur eggs. Make a dinosaur puppet, and more. Adults with children 3 – 4 years old.

FAMILY OVERNIGHT

Dozin' with the Dinos

Friday, June 20 to Saturday, June 21, 5:45 p.m. to 9 a.m.

$43 per participant ($38 per Museum member). Spend a night of discovery at The Field Museum after the crowds are gone. Enjoy two natural science workshops, an evening snack, a dino-related performance and much more. Adults accompanied by children grades 1– 6. Call 312.322.9410 to register or for more information.

OUTDOOR DINO DIG

May 24 through August 31.

$1 per child; $2 per adult (free to members). A dinosaur dig is featured in an interactive exhibit tent on the Museum Campus. Younger visitors will sweep away sand to "discover" a replica of an *Allosaurus*. Older kids will use "tools" to expose the dinosaur. Staff will then demonstrate the process of jacketing and removing material from a dig site. Other activities in the tent give visitors experience sorting and identifying invertebrate fossils and putting together a 3-D dinosaur puzzle.

Z93405

5/3 - 5/24 Saturdays

Japanese Netsuke

10 a.m. – Noon. Netsuke are monumental sculptures in miniature size. Their variety and exquisite detail make them interesting as objects of art, as well as for the legends they represent. This course for adults examines materials, styles of carving, identification of artists and how to determine the age of pieces. $65 ($57 members). Call 312.322.8854 for more information or to register.

5/6 - 5/20 Tuesdays

Restoring Chicago's Wilderness

6 – 8 p.m. Scattered throughout the Chicago metropolitan region, small remnants of the original Illinois wilderness survive, including tallgrass prairies, savanna and oak woodlands — communities that are more endangered than the tropical rain forest. This adult course will draw upon the combined insight of Field Museum scientists and local conservation experts actively involved in redefining, researching, developing and implementing ecological restoration. $53 ($47 members). We are also offering two field trips that will focus on Chicago Wilderness sites led by Museum scientists or local conservation experts, one to Swallow Cliff Woods on Saturday, May 3, and one to Harms Woods on Saturday, May 10. Call 312.322.8854 for information or to register.

5/8 Thursday

AquaRAP Reception

5:30 p.m. The Founders' Council and Conservation International present Barry Chernoff, associate curator of fishes and chairman of the zoology department, in a discussion of the new conservation program, Aquatic Rapid Assessment Program. Chernoff will also present newly discovered species found by the field scientists of AquaRAP. For information about the Founders' Council, or this event, call Patricia Stratton at 312.322.8868.

5/10 Saturday

"Sacred Mountains and Ice Mummies of the Andes" Lecture

1 p.m. The discovery in 1995 of three frozen Peruvian mummies by archaeologist Johan G. Reinhard and his National Geographic Society Expedition team made international headlines. It is believed that the two young women and young man went to the top of the 20,700–foot Mount Ampato and were sacrificed by Inca priests. Because of the uniqueness of their frozen state, the mummies are shedding new light on sacrificial ritual and culture. Reinhard, a research associate in The Field Museum's anthropology department, will present the latest findings based on study of the mummies. Call 312.922.9410, ext. 658 for more information.

5/15 Thursday

Award of Merit Presentation

6 p.m. The Founders' Council presents the Museum's Award of Merit to Jane Goodall, world-renowned scientist researching chimpanzee behavior and ecology. For more information about the Founders' Council, or this event, call Patricia Stratton at 312.322.8868.

5/17 Saturday

Birdwatching in Chicagoland

8 – 11 a.m. Join Dave Willard, collections manager of birds in the zoology department, and examine examples of some of the hundreds of different birds that migrate through Chicago every spring and fall. Willard will also discuss the migratory birds that have been collected as part of an ongoing Field Museum research project at McCormick Place. Learn more about this project and how to identify both permanent and migratory species as we tour the lakefront and Grant Park birding habitat adjacent to the Museum Campus. $21 ($18 members). An additional birdwatching field trip is also available to Nelson Lake Marsh on June 7. Call 312.322.8854 for more information or to register.

5/20 Tuesday

Women's Board Fundraiser

6 – 10 p.m. The Women's Board is hosting a preview fundraiser for the "Dinosaur Families" exhibit. Guests will be the first to preview the exhibit, dance to the music of the Stu Hirsh Orchestra and enjoy the culinary delights of Calihan Gotoff. Tickets begin at $125. Call the Women's Board office for reservations and information at 312.322.8870.

5/21 - 6/4 Wednesdays

Rites of Passage

6 – 8 p.m. Have you experienced the frustration of miscommunication and a lack of "common ground" when interacting with adolescents? Social anthropologists like Margaret Mead have studied adolescence and recorded interesting information about cultural experiences, or rites of passage, that mark this transition from adolescence to adulthood. Examine with Alaka Wali, director of the Museum's Center for Cultural Understanding and Change, the meanings and values cultures give to this period, the differing expectations family and society have placed on adolescence and the stress that these factors may produce in everyday situations. $53 ($47 members). Call 312.322.8854 for more information or to register.

5/22 Thursday

Centennial Club Event

11:30 a.m. – 3 p.m. This annual luncheon, lecture and preview of the exhibit, "Dinosaur Families," is exclusively for individuals who have been members of The Field Museum for 30 years or more. Reservations required. Call 312.322.8880 for more information.

5/25 Sunday

Make Your Own Dinosaur Out of Chicken Bones

2 p.m. Lecture and booksigning. See Dr. Chris McGowan describe and demonstrate his unique project that he developed from his own research on the embryonic development of birds. Learn how you can construct a realistic model of an *Apatosaurus* dinosaur from chicken bones. Copies of his book will be available for purchase and signing. $12 ($10 members). Call 312.322.8854 for more information or to register.

5/28 Wednesday

Donor Group Exhibit Preview

5:30 – 7:30 p.m. Field Contributors, Adventurers, Naturalists and Explorers will enjoy a preview of the traveling exhibit, "Dinosaur Families." This event is by invitation only. For more information, call Sarah Highstone at 312.322.8874.

6/7 Saturday

Mystery in the Museum

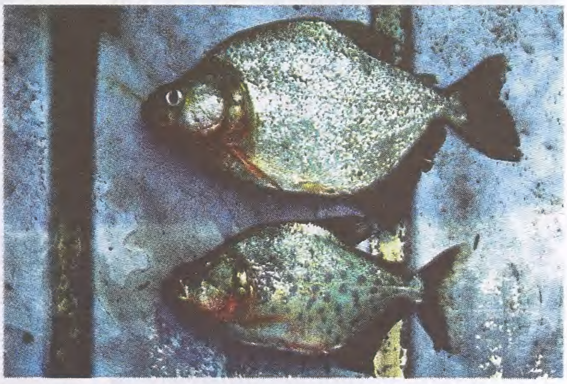
9 a.m. – Noon. Someone is destroying the Mexican Rain God, and it is your chance to catch the culprit! All teen investigators will be briefed on the archaeology of Mexico, the recent world-wide crime spree and the list of known suspects. Using scientific methods and old-fashioned common sense, examine the evidence in the crime lab and attempt to crack the mystery. Ages 13 to 17. $21($18 members). Call 312.322.8854 for more information or to register.

6/8 Sunday

Chicago Waterways

8:45 a.m. – 4 p.m. Our ever-popular 70-mile guided tour along Chicago's inland waterways provides a unique perspective of the ecological, economic and communal history of greater Chicago. Travel by boat through the Chicago Locks into Lake Michigan. We will proceed south to Calumet Harbor and the Cal Sag Channel and return to Chicago via the Chicago Sanitary and Ship Canal and the Chicago River. (An alternate route is planned if inclement weather prevents travel on Lake Michigan). $52 ($45 members). Call 312.322.8854 for more information or to register.

(Below): ***Piranhas.*** *The piranha on top is a new species of* Serrasalmus *and the one below is* Serrasalmus spilopleura. *The new species was discovered by the field scientists of AquaRAP in Rio Manuripi in Bolivia (see description under 5/8).*


Barry Chernoff

Summer Field Guide

The Summer Field Guide will soon be available. A variety of summer programs are planned to celebrate the return of warm weather. Look for a behind-the-scenes Family Evening with the division of insects and several new adult courses, including Close-up Photography, Planting an Heirloom Garden, Myth and Magic in the Ancient Near East and Scientific Illustration. If you do not already receive a Field Guide listing the programs offered for adults, families and children — and would like one — please call 312.322.8854.

Please note that programs are subject to change. On the day of your visit, pick up a Field Notes Sheet *for an up-to-date program listing.*

(Below):**"*Dinosaur Families: Heirlooms and Hoopla" performance.*** *Musical theater performance about paleontology and dinosaur egg discoveries that includes children in the action. These performances will take place at noon and 2 p.m. from Saturday, May 24, to Monday, May 26.*

Diane Alexander White /GN88199.05c

Every Saturday

9 a.m. – 3 p.m. **Digging Dino Dirt** demonstration. Visit the "Life Over Time" exhibit and learn how scientists are trying to understand the environment in central Montana by picking out microscopic animal bones from dirt in which dinos lived and died. Watch on a large screen monitor as microscopic discoveries are made right before your eyes!

Every Tuesday

10 a.m. & Noon. **Highlights of the Africa Exhibit** tour. Visit one of the world's finest collections representing African cultures. Explore different historical periods, past to present, as well as the presence and ongoing contributions of African peoples in the Americas. Every Tuesday in May, check listings for June.

10 a.m. & 1 p.m. **The Early Maya Civilization** tour. Today two million people speak Maya in their homeland — Guatemala, Southern Mexico and parts of Central America. Explore the art, architecture, math and writing systems that their ancestors developed thousands of years ago and the traditions that continue to this day. Every Tuesday in May, check listings for June and weekends.

Every Tue. & Wed.

10:30 a.m. & 12:30 p.m. **The Diversity of North American Indian Cultures** tour. Discover the diversity of American Indian Nations and focus on their concepts of home to compare the cultural similarities and differences. Learn about Native American influence on present day America. Every Tuesday and Wednesday in May, check listings for June.

Every Wednesday

11:30 a.m. & 1:30 p.m. **Into the Wild** tour. Visit classic dioramas of animals. Learn their history and mounting techniques by the great Carl Akeley, and consider what message this legacy of natural history has for us. Every Wednesday in May and June.

Every Thursday

10 a.m. – 1 p.m. **Maya Math** activity. Learn a new counting system — the Maya system of numbers. Figure out your age using "Maya Math." Every Thursday in May only.

12:45 p.m. **The Aztec, The Maya and Their Predecessors** tour. Learn about the diverse and complex pre-Columbian cultures of Mexico and Central America. Check weekend listings for Saturday and Sunday.

Highlights of The Field Museum tours are offered Monday through Friday, at 11 a.m. & 2 p.m. Visit some of the exhibits that make this Museum one of the world's greatest. Find out the stories behind the exhibits. Check weekend listings for Saturday and Sunday Highlights tours.

May 2 — Friday

10 a.m. – 1 p.m. **Sea Shells** activity. Did you know that shells were "left-handed" or "right-handed?" Discover more about different types of shells in this informative activity.

May 3 — Saturday

11 a.m. & 1 p.m. **Highlights of The Field Museum** tour.

11:30 a.m. & 2:30 p.m. **The Aztec Empire and Its Predecessors** tour (English). Discover the diversity of Mexican cultures and languages whose heritage extends over 3000 years. Find out how the Aztec (Mexica) migrated to central Mexico, assimilated to this region's lifestyle and built a mighty Empire prior to the arrival the European.

1:30 p.m. **El Imperio Azteca y sus Predecesores** *tour (español). Descubra la diversidad de las culturas y lenguas mexicanas así como su herencia de hace 3000 años. Aprenda cómo los Aztecas (Mexicas) emigraron al centro de México, se adaptaron al estilo de vida de esta región y construyeron un poderoso imperio antes de la llegada de los europeos.*

1:30 p.m. **Tibet Today and Bhutan, Land of the Thunder Dragon** slide lecture. See Lhasa and other places now open to tourists in Tibet. Also travel to the small Himalayan country of Bhutan.

May 4 — Sunday

11 a.m. & 1 p.m. **Highlights of The Field Museum** tour.

1:30 a.m. **The Early Maya Civilization** tour.

2 p.m. **Native American Stories for Children.** Gather around and hear stories read about the traditional life of Native Americans.

May 9 — Friday

10 a.m. – 1 p.m. **Terrific Teeth** activity. Can teeth tell you what an animal eats? Take part in this fun activity and find out!

May 10 — Saturday

11 a.m. & 1 p.m. **Highlights of The Field Museum** tour.

1 p.m. **Sacred Mountains and Ice Mummies** lecture. Johan Reinhard, Field Museum research associate, will discuss his news-making archaeological discovery. See calendar page for more information.

May 11 — Sunday

11 a.m. & 1 p.m. **Highlights of The Field Museum** tour.

1:30 p.m. **The Early Maya Civilization** tour.

May 15 — Thursday

10 a.m. – 1 p.m. **Maya Math** activity.

May 16 — Friday

10 a.m. – 1 p.m. **Horns and Antlers** activity. What is the difference between horns and antlers? Examine a variety of horns and antlers and discover their form and function.

May 17 — Saturday

11 a.m. & 1 p.m. **Highlights of The Field Museum** tour.

11:30 a.m. & 2:30 p.m. **The Aztec Empire and Its Predecessors** tour.

1 p.m. **Nahuatl Poetry** readings. Find out how Aztec literature has been preserved to our days as you listen to music of pre-Hispanic influence. Poetry readings are in English, Spanish and Nahuatl.

1:30 p.m. **Tibet Today and a Faith in Exile** slide lecture. See Lhasa and other places now open to tourists and Tibet. Learn about Tibetan refugees in India, Nepal and elsewhere. Witness the dedication ceremony of a Himalayan Buddhist *chorten* in Indiana by His Holiness, the Dalai Lama.

May 18 — Sunday

11 a.m. & 1 p.m. **Highlights of The Field Museum** tour.

1:30 a.m. **The Early Maya Civilization** tour.

May 22 — Thursday

10 a.m. – 1 p.m. **Maya Math** activity.

May 23 — Friday

10 a.m. – 1 p.m. **Adzes and Awls** activity. Discover how bones, stones and shells were used by Native American toolmakers.

May 24 — Saturday

2 p.m. **Native American Stories for Children.**

May 25 — Sunday

Noon. **Fireballs & Shooting Stars** tour. Explore the secrets locked in meteorites that hold the keys to understanding our universe.

1:30 p.m. **The Early Maya Civilization** tour.

May 28 — Wednesday

10 a.m. & Noon. **Inside Ancient Egypt** tour. The mysterious empire of Ancient Egypt and its people have fascinated the world for hundreds of years. Explore the lives and after lives of these people: the food they ate, the clothes they wore, the monuments they built and the gods they worshiped.

May 29 — Thursday

10 a.m. – 1 p.m. **Maya Math** activity.

May 30 — Friday

10 a.m. – 1 p.m. **Rocks and Mineral Match** activity. Try and match minerals with the familiar products they produce.

Every Tuesday

10 a.m. & 12:30 p.m. **Inside Ancient Egypt** tour. Every Tuesday and Wednesday in June, check listings for May.

June 1 — Sunday

1 p.m. – 3 p.m. **Geology in Action** activity. Coral reefs in Chicago? Rocks that float on water? Come participate in hands-on geology activities.

1:30 p.m. **The Early Maya Civilization** tour.

June 3 — Tuesday

10:30 a.m. & 12:30 p.m. **Inside Ancient Egypt** tour.

June 5 — Thursday

10 a.m. & Noon. **Africa Exhibit** tour.

10:30 a.m. & 12:30 p.m. **Native American Indians** tour.

June 6 — Friday

10 a.m. – 1 p.m. **Lava activity.** Now that they're cool, touch some of the substances produced by a volcano.

June 7 — Saturday

12:30 p.m. **Tibet Today** slide lecture and Tibet exhibit tour. See Lhasa and other places now open to tourists in Tibet. A guided tour through the Tibet exhibit will follow the lecture.

1:30 p.m. **The Early Maya Civilization** tour.

June 8 — Sunday

Noon. **Fireballs & Shooting Stars** tour.

2 p.m. **Native American Stories for Children.**

June 13 — Friday

10 a.m. – 1 p.m. **Sea Shells** activity.

June 14 — Saturday

1:30 p.m. **The Early Maya Civilization** tour.

June 20 — Friday

10 a.m. – 1 p.m. **Terrific Teeth** activity.

June 21 — Saturday

12:30 p.m. **Tibet Today** slide lecture and Tibet exhibit tour.

2 p.m. **Native American Stories for Children.**

June 22 — Sunday

1 p.m. – 3 p.m. **Geology in Action** activity.

1:30 p.m. **The Early Maya Civilization** tour.

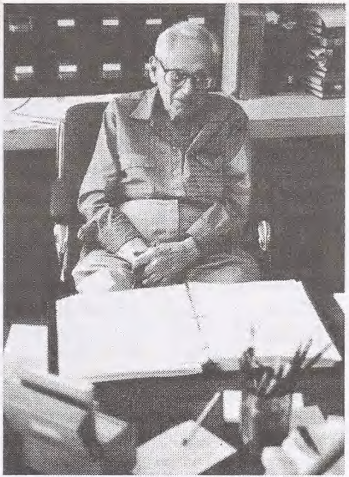
June 27 — Friday

10 a.m. – 1 p.m. **Owl Pellets** activity. Learn about the dissection process that scientists use to discover the contents of a predatory bird's diet.

A Tribute to Philip Hershkovitz, a Pioneer in the Field of Mammalogy

By Robert Vosper

GN83880.18A



Bruce Patterson

With the death on Feb. 15, 1997 of Curator Emeritus Philip Hershkovitz at the age of 87, the Museum not only lost one of its most productive scientists, but also a pioneer in the field of mammalogy. From 1947, when he started at the Museum, Hershkovitz never quit and never rested in his ferocious quest to understand the mammals of South America.

Over the span of his career, Hershkovitz studied all groups of Neotropical mammals, but he is probably most famous for his works on faunal origins, metachromism and New World monkeys. In his final decade, however, Hershkovitz devoted himself to the poorest known mammal groups in the Neotropics: native mice and marsupials.

"In the field and at the Museum he was the most energetic and productive worker I have ever encountered," explains Jack Fooden, research associate in the division of mammals. "His drive was a constant inspiration to everyone around him. Certainly there will never be anyone like Phil. I don't think that even three scientists together could accomplish the things he did."

What Hershkovitz accomplished is staggering. During his long career he described 67 new species and subspecies in seven orders, revised the status of literally hundreds of names proposed by others, and named seven new genera. He also published nearly 165 scholarly papers (many were monographs) of which only three were co-authored. Of all his published works, however, he is probably best-known for his monumental volume, *Living New World Primates (Platyrrhini)*, published by the University of Chicago Press in 1977. At the time of his death he had four monographic articles in press; one he was editing while a patient at Chicago's Northwestern Memorial Hospital.

"What kept him going for so long was that he had many things that he wanted to finish," says Associate Barbara Brown, his assistant for 27 years. "His work gave him a purpose for living and he did it because he enjoyed it. For him it was both a vocation and avocation."

His devotion to research and publishing also extended to his fieldwork. In total, he spent nearly 15 years of his life in South America conducting field studies in Ecuador, Colombia, Surinam, Bolivia and Brazil. Among South American mammalogists he was legendary. Because he was fluent in Spanish, could live off the land for months and knew South America inside and out, many South American scientists adopted this so-called "gringo" as their own. Upon learning of his death, Victor Pacheco, a Peruvian mammalogist, wrote the following:

"I have heard . . . that our friend Don Felipe died this week. I feel like my mentor has passed away. He was very important in placing myself in mammalogy. I still remember him hunting and trapping in Samiria [Amazonian Peru], in his strong and unique way; after that trip I knew I wanted to be a mammalogist. I recall when he used to talk about 'mochingalos' in his perfect Spanish and I realized that he knew more about Peru than I did. What a wonderful life! I am going to miss him forever."

Hershkovitz's love affair with South America began during the Depression when, no longer able to afford tuition at the University of Michigan, he moved to Ecuador. Walking around Ecuador barefoot (his shoes deteriorated in the humidity after six months), Hershkovitz sustained himself through horse trading. For three years he lived completely off the land, learned Spanish and, more importantly, assembled a fine collection of Ecuadoran mammals for the university's Museum of Zoology.

After Ecuador, he returned to Michigan to finish his degree. He later obtained a scholarship to study at the National Museum in Washington, D.C. Ever the consummate field researcher, Hershkovitz spent a year in Colombia collecting mammals to supplement the museum's poor collections. After a brief detour to Europe during World War II as an enlistee of the Office of Strategic Services (precursor to the CIA), he returned to the National Museum. But two years later, in 1947, he received a call from The Field Museum about a curatorial opening. Because the Museum's staff included Wilfred Osgood, an authority on South America mammals, Hershkovitz jumped at the chance. He also viewed it as a way to repay the Museum for donating him supplies in 1932 when he was just a desperate Michigan student embarking on a solo field expedition to the San Marcos region of Texas. Hershkovitz repaid his debt a thousand times over through his loyalty to the Museum. In the process he made The Field Museum renowned for the study of Neotropical mammals.

His research and dedication touched many at The Field Museum and inspired numerous students to enter the field of mammalogy. In 1987, two of those students, Bruce Patterson, MacArthur Curator of mammals at the Museum, and Robert Timm, curator of mammals at the University of Kansas, accumulated and edited a collection of research reports written by various authors relating to Hershkovitz's work. The Museum published this festschrift in the *Fieldiana* series under the title, "Studies of Neotropical Mammalogy, Essays in Honor of Philip Hershkovitz" (*Fieldiana: Zoology*, New Series, No.39, publication No. 1382). Patterson saw that volume as a way to honor the man who played a pivotal role in his own career. But, as Patterson discovered, repaying a debt to a scientist like Hershkovitz was not that easy.

"I think that some of life's relationships are inescapably asymmetric and the teacher-student relationship many of us had with Phil was one of those," Patterson explained at a Museum memorial to Hershkovitz. "Settling our accounts with Phil can only come from dedicating ourselves to becoming equally instructive, inspiring, gracious and generous to those that follow."

Though Hershkovitz will no longer be able to mentor aspiring mammalogists, his collections, research and published works will be studied by students of the field for generations to come. This is perhaps his greatest legacy.

Tenrecs . . .

Continued from page 1

Promising Results

I recently joined Goodman on two separate expeditions to tropical forests in Madagascar and collected material from other localities throughout the island. Thanks in large part to the ambitious pitfall trapping methods employed by Goodman — and borrowed by me on a separate excursion — we obtained chromosomes from 19 species of tenrecs. Analysis of this material in the Museum's recently renovated biochemical laboratory uncovered yet another striking element of tenrec diversity. Tenrecs, it turns out, vary widely in the number of chromosomes found among different species. In fact, their variability in chromosome number is equivalent to that found in true shrews, a family with more than 300 species. We also found that several species of *Microgale* have very different chromosomal formulas, despite being similar externally, suggesting that there may be "hidden" species awaiting discovery.

Another interesting result of field work done last December involves the diminutive mouse-eared tenrec, *Geogale aurita*, sole member of its subfamily and one of the few tenrecs that have adapted to the island's arid southwest. Based on its overall peculiarity and fossil evidence from Africa, paleontologists think *Geogale* may represent a second, independent colonization of Madagascar. Together with a Malagasy and an English student, I captured *Geogale* and found it had far fewer chromosomes than any other tenrec species (and the lowest number known for any insectivore). While this by itself is inconclusive, it nonetheless highlights the distinctiveness of the species, as well as the incredible variation found in this poorly studied but diverse group.

Tenrecs are only one example of evolutionary radiation on an island ecosystem. However, no other group possesses the same combination of features, or has experienced the same history. Studies like these improve our ability to generalize about the evolutionary process, while uncovering interesting patterns and processes unique to specific taxa. They also underscore the need for extensive, well-documented and well-managed museum collections — which are arguably the only scientifically valid way of documenting biodiverty.

FROM THE FIELD ARCHIVES

May 1950

Museum curators led an anthropological expedition to the Mariana Islands (group of islands in the western Pacific, east of the Philippines). The purpose of the project was to study the prehistory of man in this area and to piece together the pattern of the island's ancient cultures.

Field Museum taxidermists Leon L. Walters and Ronald J. Lambert embarked on a field trip to Florida to gather specimens for a Museum exhibit on reptiles and amphibians. Their shopping list included alligator snapping turtles, red-headed skinks, rainbow snakes and diamondback rattlesnakes.

Museum Curator Clifford H. Pope set out for Oklahoma and Arkansas to find the elusive and mysterious *Plethodon ouachitae*, a woodland salamander. The reason the salamander is so "mysterious" is that it can only be spotted during protracted rainy spells. According to Pope at the time, "One recent expedition failed to find a single specimen because of the adverse (clear) weather conditions encountered."

June 1950

Curators Paul S. Martin and John B. Rinaldo kicked off their 16th season of archaeological work in western New Mexico. The expedition was part of a long-term project to study the Mogollon Indians believed to have inhabited the area from about 1500 B.C. to 1000 A.D. On this expedition they hoped to excavate four dry caves discovered in a 1949 expedition. According to Martin at the time, "It is necessary to dig these caves quickly before relic hunters get in their destructive strokes."

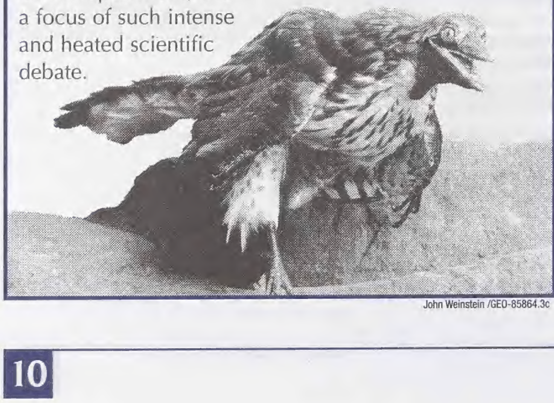
The University of Western Australia gave the Museum a rare specimen of an Australian reptile, the Moloch lizard (*Moloch horridus*) — better known in Australia as the "mountain devil." The Moloch lizard, which lives off a diet of ants, is similar to the horned toad, but of another family.

The Museum received 700 specimens of birds from Nepal from a Museum-sponsored field expedition. Until 1950, Nepal was a "forbidden country" and knowledge of if its avifauna dated back more than a century to the work of Sir Brian Hodgson, a British bird enthusiast living in Nepal. Expedition members spent three months hunting for birds by climbing 15,000 feet into the Himalayas and traveling on the backs of elephants.

From October 4 – 19, The Museum will Present:

Archaeopteryx: the famous feathered dinosaur.

The Field Museum will be the first place outside Germany to display the most recently discovered fossil remains of *Archaeopteryx*. Find out why the fossils of this remarkable animal, of which there are only seven known specimens, are a focus of such intense and heated scientific debate.



John Weinstein /GEO-85864.3c

Walt Disney Resort's Magical Memories Tour, May 30 to June 1

If you visit the Museum on the first weekend of June, do not be surprised to see a mysterious two-legged 5-foot-tall mouse with huge ears walking around the Museum Campus. No, this is not some endemic mammal that Museum curators discovered in Madagascar, nor is it a "relic" uncovered deep within the rain forests of South America . . . it is Mickey Mouse.

From Friday, May 30, to Sunday, June 1, The Field Museum, Adler Planetarium and Shedd Aquarium will host the Walt Disney World Resort's Magical Memories Tour – complete with a 65-foot-tall pink-and-white 25th Anniversary Cinderella Castle Cake and the entire Disney entourage, including Mickey and Minnie Mouse, Pluto, Cruella DeVille and The Mad Hatter.

The 20-city national road show will set up stage between the Shedd and The Field Museum on McFetridge Drive. The tour's live stage show will feature a cast of Disney characters, special effects, fireworks, confetti and special appearances by Chicago VIPs. The 30-minute song-and-dance production takes guests on a trip down memory lane, celebrating 25 years of Walt Disney magic.

The Walt Disney Company

Performances, which are all free, will be staged on:

- **Friday (May 30) at noon and 4 p.m.**
- **Saturday (May 31) and Sunday (June 1) at 11 a.m., 1 p.m. and 3:30 p.m.**

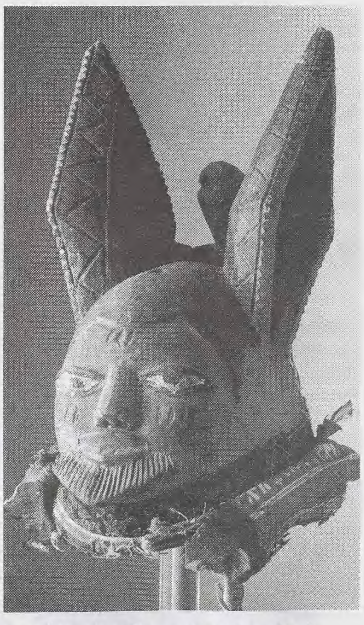
Visitors will also have the opportunity to meet their favorite Disney characters throughout the weekend. These "meet and greet" appearances at The Field Museum and the Shedd Aquarium are from noon to 4 p.m on Saturday and Sunday only. Walt Disney World characters will appear one at a time and rotate throughout the day; guests will not have to pay Museum admission to meet Disney characters.

Gifts to the Anthropology Collections

On display in the Searle Lounge is a significant group of anthropological objects from Asia and Africa; specifically 30 objects from Nigeria, 23 from Japan, 4 from China and 2 from Korea. The Field Museum obtained all the artifacts, some of which date back to the 14th century, as gifts from donors in 1996. In light of the high prices anthropological items are fetching on commercial markets, such gifts are critical in improving the Museum's collections and exhibits. And beyond their aesthetic and educational value, these types of objects serve as the foundation of many anthropological studies at the Museum.

Recent Gifts: Africa — Deborah Stokes Hammer and Dr. Jeffrey Hammer donated numerous African artifacts in the past few years. Their latest gift consists of a fine collection of Yoruba beadwork they obtained while traveling in southwest Nigeria in the late 1970s and early 1980s. Related artifacts on display in this section include Yoruba beadwork and sculptures presented to the Museum by James and Gladys Strain of New York and Ron Ziskin and Diane Wedner of California.

Recent Gifts: Asia — Professor Ross Edman, who recently retired from the art history department at the University of Illinois at Chicago, gave the Museum many 19th and 20th century Japanese ceramic pieces, as well as several paintings and bronze and iron containers. More than twenty Edman objects are on display along with a number of other Asian pieces, which include Japanese ceramics donated by Lastinia Warren from a collection made in Japan by her late husband, professor Charles Warren, formerly of the anthropology department at the University of Illinois at Chicago; antique Korean ceramics from Dr. Youk R. and Jung K. Lee of Oak Brook; and a Chinese porcelain cup marked with the seal of the Dowager Empress from Philip Pinsof of Wilmette.



John Weinstein /A113278.10c

A mask worn in an Egungun *(a secret society in Nigeria) masquerade to honor deceased relatives. The mask is a gift from* Ron Ziskin.

The Museum Remembers Emmet "Bob" Blake, Ornithologist and Great Explorer

By David Willard
Collection Manager, Birds
and Melvin A. Traylor, Jr.
Curator Emeritus, Birds

Emmet "Bob" Reid Blake, curator emeritus of the bird division, died on Jan. 10, 1997 at the age of 88. Blake joined The Field Museum as an assistant in 1935, and except for a four-year hiatus during World War II, he remained on staff until his retirement in 1973. Even in his retirement, he continued to be an active participant in the bird division well into the 1990s as he worked to finish long-term projects on Neotropical birds.

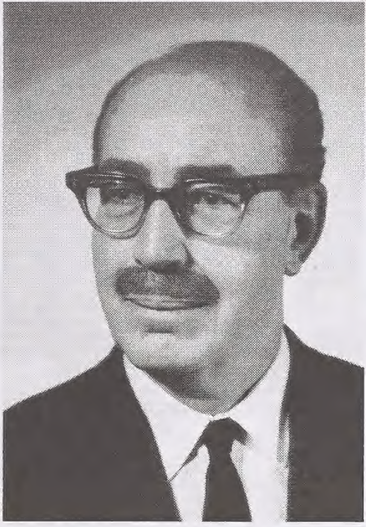
Blake's interest in natural history dated to his childhood near Greenwood, S.C. As a boy he roamed the forests and fields around the family farm, trapping muskrat and mink and learning all he could about the local flora and fauna. At 15, he entered Presbyterian College in South Carolina, and turned an empty dormitory into a museum filled with specimens of all of the local fauna. He was so successful in collecting reptiles that he is identified in his senior yearbook as "Snaky" Blake.

After graduation, with only $2.65 in his pocket, Blake roller-skated 900 miles from Greenwood to Pittsburgh to enroll as a part-time graduate student at the University of Pittsburgh. He supported himself by pumping gas at night, by teaching boxing and swimming at the YMCA and, on occasion, by working at local carnivals as a boxer. It was in Pittsburgh that he got his first opportunity to participate in ornithological fieldwork: a National Geographic Society expedition to the previously unexplored Brazil–Venezuela boundary along the Rio Negro. This trip marked the beginning of a career that took Blake into some of the most remote parts of Central and South America. It was also a career that earned him the reputation as an inveterate explorer and prolific collector.

His first connection to The Field Museum came in 1931 when Leon Mandel, an important Museum benefactor, hired him to lead a Museum hunting and collecting trip to Venezuela. Blake seized this opportunity eagerly, for the Museum had always held a fascination for him as an active, growing institution. The expedition sailed from Miami on Mandel's yacht, and after stops in Cuba, Haiti and Trinidad, it reached the delta of the Rio Orinoco. Here, after ten days of hunting, the rest of the party departed, leaving Blake to settle down to make his first Field Museum collection. He succeeded in reaching the top of Mt. Turumiquire in northeastern Venezuela, and in 35 days made a collection of 803 birds, 96 reptiles and 37 mammals — an extraordinary achievement considering he was completely alone. This bird collection still stands as one of the most comprehensive and important ever made from the area.

On his return, Blake re-entered the University of Pittsburgh and completed his master's, which, at the end of the Depression, was not enough to land him a job. But the impression he made on Mandel in 1931 resulted in a second invitation to participate in a Field Museum expedition, this time to Guatemala. Again, he made important collections from previously unexplored areas. Although The Field Museum now clearly recognized his skills, it did not have any staff openings at the time. But after a collecting trip to Belize for Carnegie Museum, a position finally did open, and Blake joined the staff in 1935 — beginning an association that lasted more than 60 years. Before the end of the decade, he mounted two additional important expeditions — one to Guyana where he nearly lost his life in a boat accident on the Courentyne River, and a second to southern Brazil where he collected both for the research collections and the exhibit halls.

World War II soon interrupted his ornithological career when the army drafted him in 1942. After serving in counterintelligence in Europe and Africa, he turned his attention to studying the Museum's bird collections and writing about them. His publishing history dated to 1920, when at age 12, he wrote a newspaper article titled "Purple Martins Slaughtered by City Employees," but he produced much of his most valuable work after the War. Included was the first field guide to the birds of Mexico, a book that went through seven printings, and even today — after the publication of many glossy guides — maintains value for students of Mexican birds. His technical publications covered all of South and Central America, and he revised the classifications of five bird families for Peters' *Checklist of the Birds of the World*. He also described five species of birds new to science and many additional subspecies. After one last expedition in 1958 to southeastern Peru, he embarked on his most ambitious project — a *Manual of Neotropical Birds* that was to have been a five-volume work covering all of the 3,000 or so bird species of the Neotropics. In 1977, he published the first volume that immediately became an important reference for all ornithologists working in the area. Unfortunately, Blake's energy for this massive task seemed to flag during the preparation of the second volume, and it and subsequent volumes were never completed.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While devoting his career to ornithology, Blake also had time to raise a family in Evanston, Ill., with his wife Peg. He is survived by Peg, two daughters, Peggy and Betsy, and a grandson. He and Peg would have celebrated their golden anniversary this year.

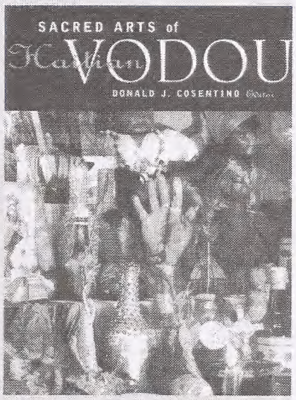
Bob Blake was a delightful colleague, regaling us all with stories of his childhood in the South and his adventures in the field. He brought a great sense of humor to his job, reminding us not to take ourselves too seriously. He was a wonderfully colorful conduit to an era of ornithology that combined science with adventures more exciting than any in the movies. Newspaper headings like "Museum Party Marooned 10 Days on Island," "Emmet Blake Reaches Georgetown After Disaster to Expedition," "Fer de Lance is Fatal to Member of Blake Expedition" and "Emmet Blake Nears Death on Expedition" give a hint of the richly exciting life he led.

The Field Museum

Blake's legacy includes important ornithological collections and publications — works that will be important to generations of ornithologists, biogeographers and environmentalists. It also includes a set of traditions and examples that serve the bird division well today. He worked at the geographic frontiers of ornithology, delineating the ranges of birds and documenting their diversity. The current staff has followed his footsteps to remote areas of South America, Africa, Madagascar and the Philippines, and has expanded into the new frontiers of molecular biology. Blake left an imprint on the bird division and The Field Museum that will not diminish with time.

SACRED ARTS OF HAITIAN VODOU

A Collectors Catalog on Sale Now in the Main Store Museum Market Place



This 450-page anthology includes ground breaking essays by Haitian and American scholars along with interviews with artists and Vodou practitioners. This is the ideal reminder of the Museum's continuing Haitian Vodou exhibit. Its 16 chapters are lavishly illustrated with 500 photographs, most in color.

While they last, this full size volume will be on sale for $59 and can be ordered by calling 312.922.9410, Ext. 693.

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New Guinea Tourism Program

Papua New Guinea

Cruising the Sepik River and the Ancient Voyaging Corridor by Deluxe Yacht

September 4 – 22, 1997

This Field Museum tour represents a rare opportunity to explore the north coast of New Guinea aboard a 42-berth luxurious catamaran. Throughout the trip we will visit islands and villages unexplored by tourists and cruise ships. Led by Field Museum Anthropology Curators John Terrell and Robert Welsch, this trip includes a unique journey down the Sepik River of Papua New Guinea and a voyage to coastal villages that have been centers of field research by Museum anthropologists for 90 years. What you will find on this tour is not only the lush rain forests and extraordinary beauty of New Guinea's coastline, but a rich learning experience and in-depth expedition into one of the world's last great unspoiled reservoirs of nature, culture and art.

After spending a few days in Sydney, Australia, and Mt. Hagen, New Guinea, we will fly on to Ambunti on the Sepik River to board the *Melanesian Discoverer*, specially designed by Australian architect Lock Crowther — the world's foremost designer of multihull vessels. In each village we will discover cultural differences and unexpected variations in art styles, architecture and daily life. As we visit one village after another, Terrell and Welsch will discuss the cultural distinctions between the villages, as well as explain what to expect and what the villagers are likely to be selling (this region is renowned in anthropological and art history circles for its extraordinary "primitive art").

From the Sepik River it is on to Kep and Wewak along the north coast. Kep is known for its ornamented pots that have long been exchanged through traditional friendship networks along the coast. On the same day we will visit Wewak, one of New Guinea's most thriving coastal towns where village women sell Murik baskets, necklaces and string bags. After an overnight sail along the coast to the Aitape region, we will visit the islands where Terrell and Welsch have based their research (see *In the Field*, March/April 1997). In this region the curators will take us to Tumleo, Seleo and Angel — some of the most spectacular islands in the area. On these islands, which were where the first missionaries established their headquarters, we will observe women fishing on reefs, potters at work and will have the chance to see the site of Japan's World War II headquarters. For those so inclined, there is snorkeling on the reefs, swimming, shelling on the beaches and even fishing from outboard powered dinghies.

After two days in the Aitape region, we will then visit Tarawi Island, where women still make shell rings as they did when Field Museum curators visited the island in 1908. Here we will investigate a coral garden, a fresh-water lake and perhaps have the opportunity to purchase local carvings in traditional designs never before seen by tourists.

Then it is on to the tiny Siassi Islands located in the Vitiaz Strait that separates the Huon Peninsula of New Guinea from the west end of New Britain. These islands are home to some of the most famous of New Guinea's middlemen traders.

On the last part of the tour, we will get a chance to explore the town of Finschhafen that is the site of the earliest government and mission settlement in former German New Guinea. Once a hub of activity, the town is now a quiet backwater community. From here, we will sail by night for Madang with its island-strewn harbor and blue-green waters.

The cost of tour, excluding airfare, is $6,875. For those interested, the Museum has negotiated a special airfare, $1,975, that includes airport departure taxes.

The Other Africa — A Tenting Safari in Kenya, Sept. 17 – Oct. 1, 1997

Join us on a spectacular Kenyan safari, staring in Nairobi and ending in Maasai Mara — the most spectacular game reserve in Kenya. Throughout the tour, you will be staying in remote lodges or luxurious camps in a private tent with bathroom facilities. The cost of the tour is $5,995.

Valerie Jacobs

Great Trans-Canada Rail Journey — Aug. 18 – 26, 1997

Enjoy the splendor and magnificence of traveling aboard the American Orient Express from the historic cities of Eastern Canada to the Pacific Ocean. Prices range from $4,990 to $7,890 — depending on your choice of accommodation.

Coming in 1998 . . .

Impressions of South America (Feb. 6 – 20, 1998) • Galapagos aboard Santa Cruz (March) • China (September) • Tunisia Unveiled (October) • Grandparents/Grandchildren Tour Program (Summer 1998)